

REMARKS

In this Response, Applicants amend claims 1, 8, 13, 14 and 15, and cancel claim 6. Claims 2-5 and 9-12 remain withdrawn. Claims 1, 7, 8, 13-15 and 17 are currently pending, of which claims 1, 8, 13, 14 and 15 are independent.

Support for the amendments to claims 1, 13 and 14 can be found in previously presented claim 6. Support for the amendments to claims 8 and 15 can be found in the Specification at least at page 29, lines 18-29. No new matter has been added.

Applicants respectfully submit that the pending claims define over the art of record.

Rejection of Claims under 35 U.S.C. § 103(a)

Claims 1, 6-8 and 13-15 and 17 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Number 5,989,124 to Goto (hereafter “Goto”) in view of U.S. Patent Number 3,239,291 to Batt (hereafter “Batt”), U.S. Patent Number 1,982,932 to Scriebner (hereafter “Scriebner”) and U.S. Patent Number 1,907,015 to Swart (hereafter “Swart”). Applicants respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 1, 6-8 and 13-15 and 17 as set forth below.

A. Claim 1

Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest at least the following feature of independent claim 1: “a paste wax applied to said inner diameter portions of said ring-shaped roller members to retain said plurality of rolling members on said inner diameter portions of said ring-shaped roller members, said paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in said inner space of said outer member.”

Claim 1 requires a paste wax applied to the inner diameter portions, the paste wax having an oil/fat component that has a lower consistency than the consistency of a lubricating grease to be enclosed in the inner space of the outer member. Thus, even when the paste wax and the lubricating grease are present together in the inner space of the outer member, the paste wax

does not affect the lubricating performance of the lubricating grease. See Specification, page 8, lines 14-23.

The Goto reference relates to a tripod type constant velocity universal joint. The universal joint includes a trunnion 66, rolling elements 6 and a roller 72. In a former manufacturing method, the rolling elements are temporarily adhered with grease onto the roller inner circumferential surface. A stopper of the roller prevents the rolling elements from coming out when the roller, together with the rolling elements, is fitted over the trunnion. See Goto, column 6, lines 9-14, Figure 25 and related text.

However, the Goto reference does not teach or suggest a paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1. The addition of the Batt reference fails to cure this deficiency.

The Batt reference relates to roller bearings and means for retaining the needles or rollers in their cage before assembly of the bearing. A caged roller assembly includes a roller cage and rollers secured in the cage by a wax bonding. The wax is preferably a grease or oil-based wax which readily blends with another lubricant which is used after installation of the bearing in its races. See Batt, page 3, column 1.

In the Batt reference, the wax blends with another lubricant after installation. However, the Batt reference does not teach or suggest a paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1. The addition of the Scriebner reference fails to cure this deficiency.

The Scriebner reference relates to assembling tapered bearing rollers in a cup or outer race. A bearing cup 1 or outer race has a conical bore or raceway 2 and a series of taper rollers 3 mounted in the raceway. Paraffin or other hard wax is used to coat the exposed portions of the periphery of the rollers 3, the ends of the cup 1 and the outer periphery of the cup 1. The paraffin may also enter the triangular spaces 5 between adjacent rollers and the cup. The paraffin coating may be confined to the rollers and the portions of the bore 2 of the cup inwardly of the ends. See Scriebner, page 2, column 2.

However, the Scriebner reference does not teach or suggest a paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1. The addition of the Swart reference fails to cure this deficiency.

The Swart reference relates to anti-friction bearings which include rolling elements (as an annular series of balls or rollers). A soluble cage is provided in which the rolling elements are assembled in an annular series before being inserted in the raceways. The balls or rollers are held in juxtaposition in the cage. The cage is formed of waxy substance readily soluble in a hydrocarbon or lubricating oil, and the waxes used are pentichloride naphthalene, bee's wax and carnuba wax, etc. The cage serves as a lubricant initially until it is dissolved and displaced by the lubricating oil. See Swart, page 2, columns 1 and 2.

In the Swart reference, the waxy substance blends with the lubricant oil after installation. However, the Swart reference does not teach or suggest a paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1.

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest each and every feature of independent claim 1. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 1.

B. Claim 6

Applicants cancel claim 6. As such, the 35 U.S.C. § 103(a) rejection of claim 6 is moot.

C. Claim 7

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest each and every feature of independent claim 1.

Claim 7 depends from independent claim 1, and adds separate and patentable limitations to claim 1. As such, for this and the reasons set forth above, Applicants respectfully submit that dependent claim 7 also defines over the art of record.

D. Claim 8

Applicants respectfully submit that the Goto, Batt, Scribebner and Swart references, alone or in any combination, fail to teach or suggest at least the following feature of independent claim 8: “said plurality of rolling members are retained on inner diameter portions of said roller members by a solid wax, and wherein said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot.”

Claim 8 requires solid wax which does not chemically react with a lubricating grease and a joint boot. Since the solid wax is selected so as not to chemically react with a lubricating grease and a joint boot, there is no concern that the lubricating grease will change in quality due to action of the solid wax.

Applicants also note that removal of the solid wax is not essential and is described merely as an example in the Specification. See Specification, page 32, line 26 – page 33, line 4.

The Goto reference does not teach or suggest a solid wax. As such, the Goto reference does not teach or suggest “said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot,” as recited in claim 8. The addition of the Batt reference fails to cure this deficiency.

In the Batt reference, the wax blends with another lubricant after installation. The wax is removed by blending with the lubricant, and as such, there is a concern that the lubricant may change in quality. That is, the wax is in the Batt reference chemically interacts and blends with the lubricant. As such, the Batt reference does not teach or suggest “said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot,” as recited in claim 8. The addition of the Scribebner reference fails to cure this deficiency.

In the Scribebner reference, paraffin or other hard wax is used to coat the exposed portions of the periphery of the rollers 3, the ends of the cup 1 and the outer periphery of the cup 1.

However, the Scriebner reference does not teach or suggest that the paraffin or wax does not chemically react with a lubricating grease and a joint boot, as required by claim 8. As such, the Scriebner reference does not teach or suggest “said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot,” as recited in claim 8. The addition of the Swart reference fails to cure this deficiency.

In the Swart reference, the waxy substance blends with the lubricant oil after installation. The waxy substance is removed by blending with the lubricating oil, and as such, there is a concern that the lubricating oil may change in quality. That is, the waxy substance in the Swart reference chemically interacts and blends with the lubricant oil. As such, the Swart reference does not teach or suggest “said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot,” as recited in claim 8.

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest each and every feature of independent claim 8. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 8.

E. Claim 13

Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest at least the following feature of independent claim 13: “supplying paste wax to an inner diameter portion of said roller member, said paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in said inner space of said outer member.”

As set forth above in connection with independent claim 1, the Goto, Batt, Scriebner and Swart references, alone or in any combination, do not teach or suggest a paste wax comprising an oil/fat component which has a consistence lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1. Applicants respectfully submit that the foregoing arguments also apply to claim 13.

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, also fail to teach or suggest each

and every feature of independent claim 13. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 13.

F. Claim 14

Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest at least the following feature of independent claim 14: “supplying paste wax to said inner diameter portion of said roller member to retain said plurality of provided rolling members on said roller member by said paste wax, said paste wax comprising an oil/fat component which has a consistency lower than that of a lubricating grease to be enclosed in said inner space of said outer member.”

As set forth above in connection with independent claim 1, the Goto, Batt, Scriebner and Swart references, alone or in any combination, do not teach or suggest a paste wax comprising an oil/fat component which has a consistence lower than that of a lubricating grease to be enclosed in an inner space of an outer member, as required by claim 1. Applicants respectfully submit that the foregoing arguments also apply to claim 14.

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, also fail to teach or suggest each and every feature of independent claim 14. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 14.

G. Claim 15

Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest at least the following feature of independent claim 15: “a solid wax-retaining step is performed such that melted solid wax is supplied to said plurality of provided rolling members, wherein said solid wax is solidified to retain said rolling members on said roller member, and wherein said solid wax is formed of a material that does not chemically react with a lubricating grease and a joint boot.”

As set forth above in connection with independent claim 8, the Goto, Batt, Scriebner and Swart references, alone or in any combination, do not teach or suggest solid wax formed of a

material that does not chemically react with a lubricating grease and a joint boot, as required by claim 8. Applicants respectfully submit that the foregoing arguments also apply to claim 15.

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, also fail to teach or suggest each and every feature of independent claim 15. As such, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claim 15.

H. Claim 17

In view of the foregoing arguments, Applicants respectfully submit that the Goto, Batt, Scriebner and Swart references, alone or in any combination, fail to teach or suggest each and every feature of independent claim 1.

Claim 17 depends from independent claim 1, and adds separate and patentable limitations to claim 1. As such, for this and the reasons set forth above, Applicants respectfully submit that dependent claim 17 also defines over the art of record.

CONCLUSION

In view of the foregoing amendments and arguments, Applicants believe the pending application is in condition for allowance.

Any fee due is authorized to be charged to our Deposit Account No. 12-0080, under Order No. TOW-129USRCE from which the undersigned is authorized to draw. If a requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely.

Dated: January 26, 2009

Respectfully submitted,

Electronic signature: /Anthony A. Laurentano/
Anthony A. Laurentano
Registration No.: 38,220
LAHIVE & COCKFIELD, LLP
One Post Office Square
Boston, Massachusetts 02109-2127
(617) 227-7400
(617) 742-4214 (Fax)
Attorney/Agent For Applicant